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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,333	02/17/2004	Keith Leslie Williams	3170.1001-001	9422
21005 7590 11/06/2007 HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			EXAMINER GORDON, BRIAN R	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 11/06/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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EXAMINER

GORDON, BRIAN R

ART UNIT	PAPER NUMBER
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1743

MAIL DATE	DELIVERY MODE
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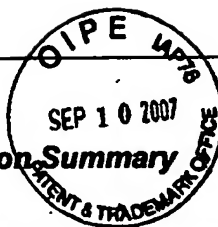
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PAPER

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**Office Action Summary**



Application No.

10/781,333

Applicant(s)

WILLIAMS ET AL.

Examiner

Brian R. Gordon

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1743

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 9, 13-16, 23-24 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims are respectively directed to the fluid, reagent, sample, and placement of the array. The claims do not add any further structure to the claims. The fluid, reagent, sample, and array are elements that are not positively claimed as elements of the apparatus, hence any description or limitations directed thereto are not considered further structurally limiting. Even if the elements were positively claimed the reference would meet the limitations.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7, 9, 11-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Balch et al. US 6,479,301

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Balch et al. devices for preparing a reaction substrate for use as an assay device, and methods of using these devices. The devices prepare reaction substrates comprising arrays of biosites bound to reaction substrates. The devices have a plurality of bundled capillary tubes that convey capture probes from a storage area for eventual deposition onto a biosite on a reaction substrate.

The multiplexed assay can be designed in a standard 96 well microtiter plate format for room temperature operation to accommodate conventional robotic systems utilized for sample delivery and preparation. Also, the proximal CCD-based imager (image recorder) with a graphical user interface will enable the automation of the parallel acquisition of the numerous hybridization test results. The CCD imaging system software provides automated filtering, thresholding, labeling, statistical analysis and quantitative graphical display of each probe/target binding area within seconds (column 6, line 31+).

The accompanying proximal CCD detector/imager offers high spatial and digital resolution. In the preferred embodiment, CCD will support the imaging of hundreds to thousands of individual biosites on a reaction substrate. Together with 16 bit digital imaging, a highly quantitative image of the high density of biosites is achieved.

Specifically the device includes and ink-jet printer to be employed for printing the biological fluids to form the biosites, proximal CCD detector /imager, bound universal capture probes are arranged in an array of biosites attached to a solid support (for extraction), various labels for identifying molecules, the CCD can provide simultaneous imaging and spectroscopy (analyzer) in the same image.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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7. Claims 6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balch et al.

Balch et al. do not specify the inclusion of valve control devices a 3-way valve.

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ various valves including 3-way valves to connect the different components to allow adequate control of the pressure within the system of Balch et al.

As to claim 8, piezoelectric actuators are well known in the art of fluid transport treatment as being employed for various purposes including fluid control and deposition. It would have been obvious to one of ordinary skill in the art at the time of the invention recognize the multiple inkjet devices may include piezoelectric actuators as conventionally known in the art.

As to claim 10, Balch et al. does not specify the use of a chromatograph cartridge, however Balch recognizes chromatography may be employed (Example VI). It would have been obvious to one of ordinary skill in the art to recognize the device maybe modified to include a chromatograph column as indicated in Example VI.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McGrew; Stephen P et al.; Coassin; Peter J. et al.; Caren, Michael P. et al.; Laurell, Thomas et al.; Chesk, William G. et al.; Peck, Bill J. et al.; Petroff, Christopher et al.; Leproust, Eric M. et al.; Petroff, Christopher; Williams, Roger O. et al.; Shchegrova, Svetlana V. et al.; De La Torre-Bueno; Jose; Fisher; William D. et al.; Thompson; Allen C. et al.; Matson; Robert S. et al.; Ganz; Brian L. et al.;

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Henderson; Eric et al.; Bass; Jay K.; Perbost; Michel G. M.; Webb; Peter G.; Caren; Michael P. et al.; Ellson; Richard N. et al.; de la Torre-Bueno; Jose; Fisher; William D. et al.; Sheridan; Richard et al.; Caren; Michael P. et al.; Ganz; Brian L. et al.; Bass; Jay K.; Coassin; Peter J. et al.; Webb; Peter G.; Platt et al.; and Bass; Jay K. et al. disclose fluid delivery devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Brian R Gordon  
Primary Examiner  
Art Unit 1743

BRIAN R. GORDON  
PRIMARY EXAMINER